

"WinTransyt: A Traffic Engineering Error Detection, Display, and Correction System"

Traffic engineers perform traffic signal timing simulation and optimization in order to minimize traveler time, congestion, pollution, and fuel consumption. The non-interactive Transyt system is a standard tool used to assist in the analysis. Data entry systems for Transyt have been developed because of the complexity of the input files ("decks") required to encode traffic flow parameters.

We discovered that as many as 50% of fielded Transyt decks contain engineering errors of various classes ranging in severity from simple violations of traffic engineering standards to physical impossibilities. Neither Transyt nor the extant data entry systems detect these errors.

Since modifications to Transyt or associated data entry systems are unlikely in the near future we have developed the WinTransyt system. WinTransyt is a Microsoft Windows (tm) based system that enables the engineer to visualize the topology and geometry of a traffic network represented by a Transyt deck. It detects and displays the most common errors found in practice. In addition, WinTransyt enables the engineer to correct several classes of errors without the use of a data entry system and to invoke the Transyt system once error correction is complete.

We will discuss the impacts of errors in Transyt decks, some unusual problems encountered during development of WinTransyt (and solutions), and possible future enhancements.

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